



# TORQ Analysis of Mechanical Engineering Technicians to Mechanical Engineers

## INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Mechanical Engineering Technicians	17-3027.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Mechanical Engineers	17-2141.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

## OUTPUT SECTION:

Grand TORQ:

89

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	94	Level	78	Level	96

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Number Facility	69	25	56	Science	76	31	85	Administration and Management	60	19	69
Oral Comprehension	80	11	78	Complex Problem Solving	81	24	88	Production and Processing	58	9	72
Speed of Closure	55	14	50	Critical Thinking	71	17	86				
Fluency of Ideas	62	11	56	Operations Analysis	74	19	76				
Originality	66	11	50	Mathematics	77	14	89				
Speech Recognition	51	9	59	Reading Comprehension	77	13	85				
Oral Expression	75	6	72	Judgment and Decision Making	76	12	79				
Written Expression	69	7	59	Speaking	67	11	76				
Category Flexibility	66	7	56	Coordination	79	8	73				
Written Comprehension	76	5	75	Active Listening	70	7	81				
Problem Sensitivity	71	5	75	Writing	68	6	78				
Near Vision	69	5	72	Active Learning	71	5	73				
Selective Attention	50	6	59								
Mathematical Reasoning	67	5	59								
Speech Clarity	48	4	62								
Deductive Reasoning	73	2	72								
Visualization	66	2	62								
Far Vision	50	2	50								



LEVEL and IMPT (IMPORTANCE) refer to the Target Mechanical Engineers. GAP refers to level difference between Mechanical Engineering Technicians and Mechanical Engineers.

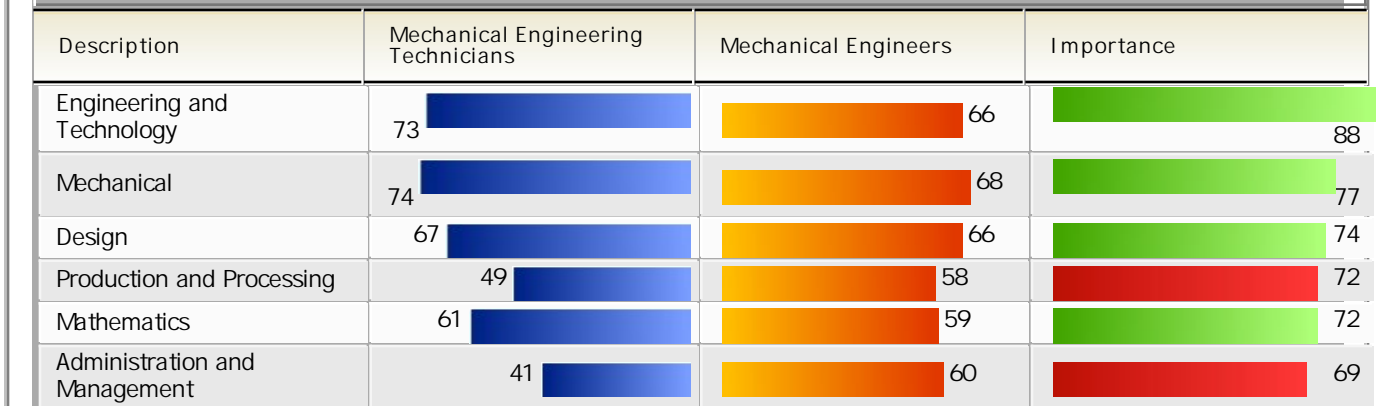
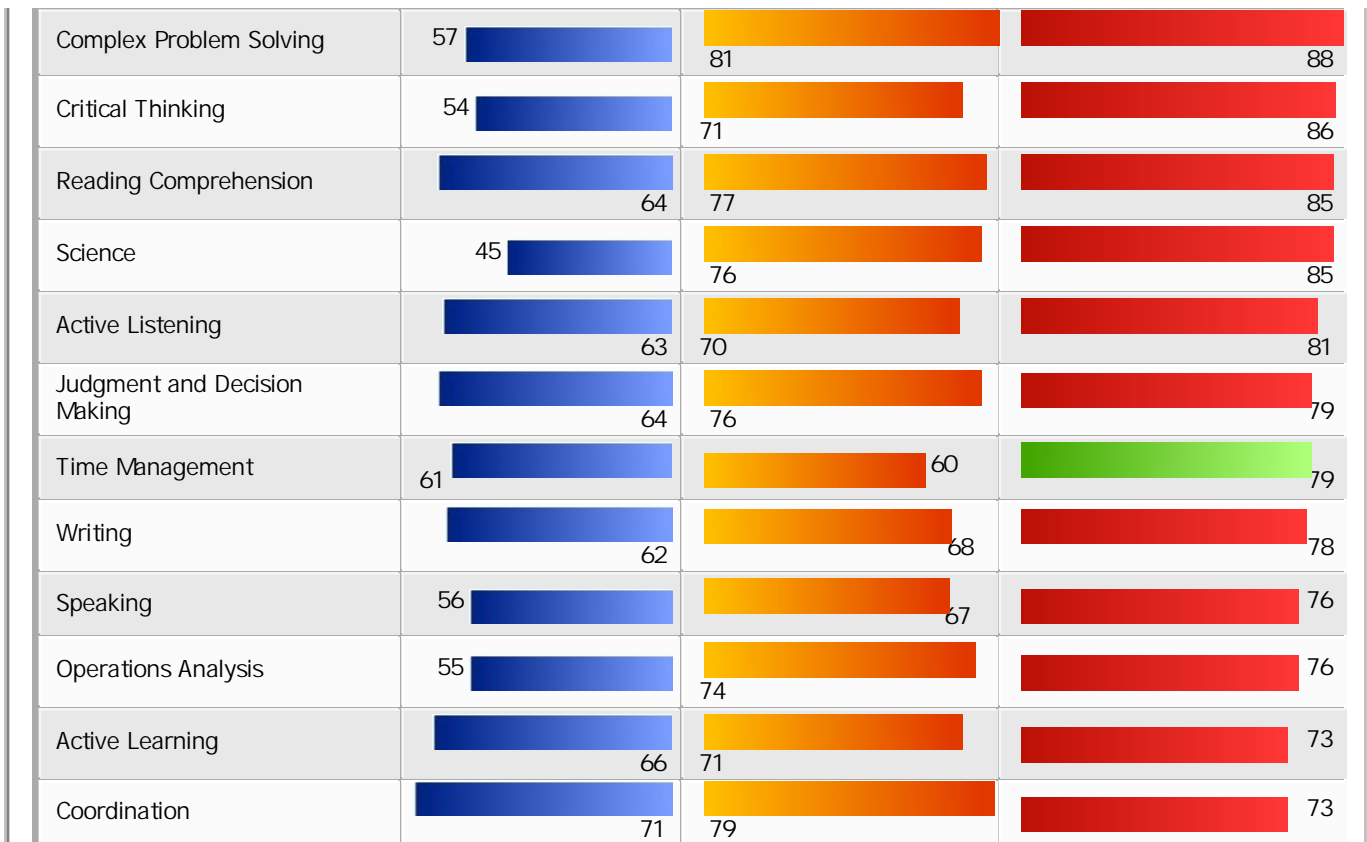
## ASK ANALYSIS

### Ability Level Comparison - Abilities with importance scores over 50

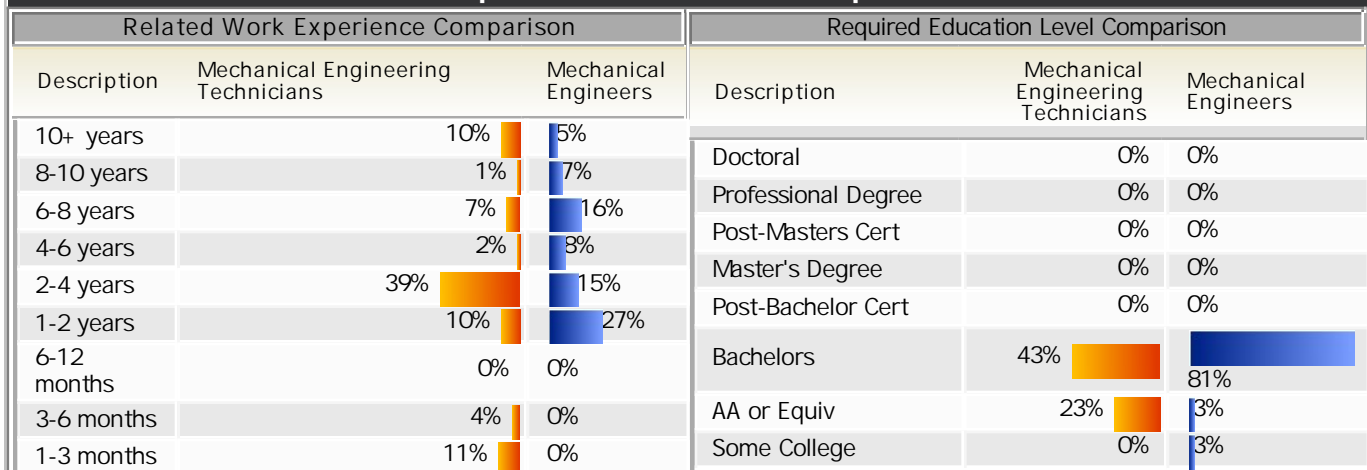
Description	Mechanical Engineering Technicians	Mechanical Engineers	Importance
Oral Comprehension	69	80	78
Written Comprehension	71	76	75
Problem Sensitivity	66	71	75
Oral Expression	69	75	72
Deductive Reasoning	71	73	72
Inductive Reasoning	66	66	72
Information Ordering	67	66	72
Near Vision	64	69	72
Flexibility of Closure	57	57	62
Visualization	64	66	62
Speech Clarity	44	48	62
Written Expression	62	69	59
Mathematical Reasoning	62	67	59
Selective Attention	44	50	59
Speech Recognition	42	51	59
Fluency of Ideas	51	62	56
Category Flexibility	59	66	56
Number Facility	44	69	56
Perceptual Speed	53	53	53
Originality	55	66	50
Memorization	50	44	50
Speed of Closure	41	55	50
Finger Dexterity	53	46	50
Far Vision	48	50	50

### Skill Level Comparison - Abilities with importance scores over 69

Description	Mechanical Engineering Technicians	Mechanical Engineers	Importance
Mathematics	63	77	89



### Experience & Education Comparison





O-1 month	0%	0%	Post-Secondary Certificate	14%	0%
None	11%	19%	High School Diploma or GED	16%	11%
			No HSD or GED	0%	0%

## Mechanical Engineering Technicians

## Mechanical Engineers

## Most Common Educational/Training Requirement:

Associate degree

Bachelor's degree

## Job Zone Comparison

## 3 - Job Zone Three: Medium Preparation Needed

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.

Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

## 4 - Job Zone Four: Considerable Preparation Needed

A minimum of two to four years of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.

Most of these occupations require a four - year bachelor's degree, but some do not.

Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

## Tasks

## Mechanical Engineering Technicians

## Core Tasks

## Generalized Work Activities:

- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.
- Evaluating Information to Determine Compliance with Standards - Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.

## Specific Tasks

## Occupation Specific Tasks:

- Analyze test results in relation to design or rated specifications and test objectives, and modify or adjust equipment to meet specifications.
- Calculate required capacities for

## Mechanical Engineers

## Core Tasks

## Generalized Work Activities:

- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Evaluating Information to Determine Compliance with Standards - Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.

## Specific Tasks

## Occupation Specific Tasks:

- Apply engineering principles and practices to emerging fields such as robotics, waste management, and biomedical engineering.
- Assist drafters in developing the structural design of products using drafting tools or computer-assisted design (CAD) or



equipment of proposed system to obtain specified performance and submit data to engineering personnel for approval.

- Confer with technicians and submit reports of test results to engineering department and recommend design or material changes.
- Devise, fabricate, and assemble new or modified mechanical components for products such as industrial machinery or equipment, and measuring instruments.
- Discuss changes in design, method of manufacture and assembly, and drafting techniques and procedures with staff and coordinate corrections.
- Draft detail drawing or sketch for drafting room completion or to request parts fabrication by machine, sheet or wood shops.
- Estimate cost factors including labor and material for purchased and fabricated parts and costs for assembly, testing, or installing.
- Evaluate tool drawing designs by measuring drawing dimensions and comparing with original specifications for form and function using engineering skills.
- Inspect lines and figures for clarity and return erroneous drawings to designer for correction.
- Operate drill press, grinders, engine lathe, or other machines to modify parts tested or to fabricate experimental parts for testing.
- Prepare parts sketches and write work orders and purchase requests to be furnished by outside contractors.
- Read dials and meters to determine amperage, voltage, electrical output and input at specific operating temperature to analyze parts performance.
- Record test procedures and results, numerical and graphical data, and recommendations for changes in product or test methods.
- Review project instructions and blueprints to ascertain test specifications, procedures, and objectives, and test nature of technical problems such as redesign.
- Review project instructions and specifications to identify, modify and plan requirements fabrication, assembly and testing.
- Set up and conduct tests of complete units and components under operational conditions to investigate proposals for improving equipment performance.
- Set up prototype and test apparatus and operate test controlling equipment to observe and record prototype test results.
- Test equipment, using test devices attached to generator, voltage regulator, or other electrical parts, such as generators or spark plugs.

drafting equipment and software.

- Conduct research that tests and analyzes the feasibility, design, operation and performance of equipment, components and systems.
- Confer with engineers and other personnel to implement operating procedures, resolve system malfunctions, and provide technical information.
- Design test control apparatus and equipment and develop procedures for testing products.
- Develop and test models of alternate designs and processing methods to assess feasibility, operating condition effects, possible new applications and necessity of modification.
- Develop, coordinate, and monitor all aspects of production, including selection of manufacturing methods, fabrication, and operation of product designs.
- Establish and coordinate the maintenance and safety procedures, service schedule, and supply of materials required to maintain machines and equipment in the prescribed condition.
- Estimate costs and submit bids for engineering, construction, or extraction projects, and prepare contract documents.
- Investigate equipment failures and difficulties to diagnose faulty operation, and to make recommendations to maintenance crew.
- Oversee installation, operation, maintenance, and repair to ensure that machines and equipment are installed and functioning according to specifications.
- Perform personnel functions such as supervision of production workers, technicians, technologists and other engineers, or design of evaluation programs.
- Provide feedback to design engineers on customer problems and needs.
- Read and interpret blueprints, technical drawings, schematics, and computer-generated reports.
- Recommend design modifications to eliminate machine or system malfunctions.
- Research and analyze customer design proposals, specifications, manuals, and other data to evaluate the feasibility, cost, and maintenance requirements of designs or applications.
- Research, design, evaluate, install, operate, and maintain mechanical products, equipment, systems and processes to meet requirements, applying knowledge of engineering principles.
- Solicit new business and provide technical customer service.
- Specify system components or direct modification of products to ensure conformance with engineering design and performance specifications.



### Detailed Tasks

#### Detailed Work Activities:

- analyze engineering design problems
- analyze engineering test data
- analyze technical data, designs, or preliminary specifications
- calculate engineering specifications
- communicate technical information
- conduct performance testing
- confer with engineering, technical or manufacturing personnel
- develop plans for programs or projects
- diagnose mechanical problems in machinery or equipment
- draw prototypes, plans, or maps to scale
- estimate cost for engineering projects
- evaluate engineering data
- examine engineering documents for completeness or accuracy
- fill out purchase requisitions
- follow manufacturing methods or techniques
- follow statistical process control procedures
- inspect facilities or equipment for regulatory compliance
- modify electrical or electronic equipment or products
- operate metal or plastic fabricating equipment/machinery
- operate pneumatic test equipment
- operate precision test equipment
- prepare technical reports or related documentation
- read blueprints
- read schematics
- read technical drawings
- read vehicle manufacturer's specifications
- recommend solutions to engineering problems
- record test results, test procedures, or inspection data
- set up and operate variety of machine tools
- test equipment as part of engineering projects or processes
- understand engineering data or reports
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use drafting or mechanical drawing techniques
- use electrical or electronic test devices or equipment
- use knowledge of metric system

- Study industrial processes to determine where and how application of equipment can be made.
- Write performance requirements for product development or engineering projects.

### Detailed Tasks

#### Detailed Work Activities:

- advise clients or customers
- advise clients regarding engineering problems
- analyze engineering design problems
- analyze engineering test data
- analyze project proposal to determine feasibility, cost, or time
- analyze scientific research data or investigative findings
- analyze technical data, designs, or preliminary specifications
- analyze test data
- bid engineering, construction or extraction projects
- calculate engineering specifications
- call on customers to solicit new business
- collect scientific or technical data
- communicate technical information
- compile numerical or statistical data
- compute production, construction, or installation specifications
- conduct performance testing
- confer with engineering, technical or manufacturing personnel
- coordinate engineering project activities
- coordinate production maintenance activities
- create mathematical or statistical diagrams or charts
- delegate authority for engineering activities
- design control systems
- design electro-mechanical equipment
- design electronic equipment
- design engineered systems
- design machines
- design manufacturing processes or methods
- design power equipment
- design tools or mechanical devices
- design transporting processes
- determine specifications
- develop mathematical simulation models
- develop or maintain databases
- develop plans for programs or projects
- develop policies, procedures, methods, or standards



- use precision measuring tools or equipment
- use robotics systems technology
- use scientific research methodology
- use technical information in manufacturing or industrial activities
- use technical regulations for engineering problems

#### Technology - Examples

##### Analytical or scientific software

- ANSYS Mechanical
- MSC Software Adams
- Spectral Dynamics STARAcoustics
- Spectral Dynamics STARModal
- The Mathworks MATLAB
- Wolfram Research Mathematica

##### Computer aided design CAD software

- Autodesk AutoCAD Mechanical
- Autodesk Inventor
- Bentley MicroStation
- Computer aided design CAD software
- IBM CATIA V5
- PTC Pro/ENGINEER software
- SolidWorks CAD software

##### Computer aided manufacturing CAM software

- CNC Mastercam
- Computer aided manufacturing CAM software
- Three-dimensional 3D solid modeling software

##### Development environment software

- Microsoft Visual Basic
- National Instruments LabVIEW

##### Industrial control software

- Computerized numerical control CNC programming software
- Robotic control software
- Soft Servo Systems LadderWorks PLC

##### Internet browser software

- Web browser software

##### Office suite software

- develop safety regulations
- develop tables depicting data
- diagnose mechanical problems in machinery or equipment
- direct and coordinate activities of workers or staff
- direct personnel in support of engineering activities
- draw prototypes, plans, or maps to scale
- estimate cost for engineering projects
- estimate time needed for project
- estimate time or cost for installation, repair, or construction projects
- evaluate costs of engineering projects
- evaluate engineering data
- evaluate manufacturing or processing systems
- evaluate product design
- evaluate tool designs
- examine engineering documents for completeness or accuracy
- explain complex mathematical information
- follow manufacturing methods or techniques
- follow safe waste disposal procedures
- follow statistical process control procedures
- improve test devices or techniques in manufacturing, industrial or engineering setting
- inspect facilities or equipment for regulatory compliance
- lead teams in engineering projects
- oversee testing or construction of prototype
- plan production processes
- plan testing of engineering methods
- prepare contract documents
- prepare reports
- prepare technical reports or related documentation
- provide analytical assessment of engineering data
- read blueprints
- read schematics
- read technical drawings
- read vehicle manufacturer's specifications
- recognize characteristics of metals
- recommend materials for products
- recommend purchase, repair, or modification of equipment
- resolve engineering or science problems
- supervise production workers
- test equipment as part of engineering projects or processes





- Microsoft Office

## Presentation software

- Microsoft PowerPoint

## Project management software

- Microsoft Project

## Spreadsheet software

- Microsoft Excel

## Word processing software

- Corel WordPerfect software

- Microsoft Word

## Tools - Examples

- Accelerometers
- Adjustable wrenches
- Air compressors
- Clamp-on ammeters
- High-voltage amplifiers
- Anemometers
- Optical microscopes
- C clamps
- Dial calipers
- Electronic comparators
- Compression testing machines
- Coordinate measuring machines CMM
- Dynamometers
- Extrusion machines
- Fatigue testers
- Mill files
- Fluid meters
- Rotameters
- Force sensors
- Plane-parallel gauge blocks
- Arc welding equipment
- Bore gauges
- Go/no-go gauges

- understand engineering data or reports
- use biological research techniques
- use computer aided drafting or design software for design, drafting, modeling, or other engineering tasks
- use computer graphics design software
- use computers to enter, access or retrieve data
- use drafting or mechanical drawing techniques
- use government regulations
- use intuitive judgment for engineering analyses
- use knowledge of investigation techniques
- use library or online Internet research techniques
- use mathematical or statistical methods to identify or analyze problems
- use pollution control techniques
- use project management techniques
- use quality assurance techniques
- use quantitative research methods
- use relational database software
- use research methodology procedures within manufacturing or commerce
- use robotics systems technology
- use scientific research methodology
- use spreadsheet software
- use technical information in manufacturing or industrial activities
- use technical regulations for engineering problems
- use total quality management practices
- use word processing or desktop publishing software
- work as a team member
- write business project or bid proposals
- write product performance requirements

## Technology - Examples

## Analytical or scientific software

- Accelerated life testing software
- ANSYS software
- Blue Ridge Numerics CFDDesign
- Computational fluid dynamics CFD software
- Data acquisition software
- Design of experiments DOE software
- Failure mode and effects analysis FMEA software
- Finite element method FEM software





- Safety goggles
- Digitizing tablets
- Surface grinders
- Polishing machines
- Claw hammers
- Durometers
- Vernier height gauges
- Hex keys
- Impact testers
- Heat treatment furnaces
- Injection molders
- Metallographs
- Computerized numerical control CNC lathes
- Spirit levels
- Granite surface plates
- Load cells
- Locking pliers
- Long nose pliers
- Metal inert gas MIG welding equipment
- Marking gauges
- Bend test fixtures
- Programmable logic controllers PLC
- Micrometers
- Microprocessors
- Combination milling machines
- Milling machines
- Digital multimeters
- Laptop computers
- Nut drivers
- Oscilloscopes
- Personal computers
- Drafting plotters

- Grid generation software
- Life cycle cost software
- MAYA Nastran
- Mesh generation software
- Modal analysis software
- Motion analysis software
- Reliability analysis software
- Reliasoft Alta 6 Pro
- ReliaSoft BlockSim
- ReliaSoft Weibull+ + 6
- Sigmetrix CETOL 6 Sigma
- Statistical energy analysis SEA software
- Statistical software
- The Mathworks MATLAB

#### Computer aided design CAD software

- Autodesk AutoCAD software
- Computer aided design CAD software
- COSMOSWorks software
- Failure assessment software
- InnovMetric PolyWorks
- Intergraph Plant Design System PDS
- Lambda Research OSLO
- Mathsoft Mathcad
- Metrix Imageware Surfacar
- Optical analysis software
- PTC Pro/ENGINEER software
- PTC Pro/ENGINEER Wildfire
- PTC Pro/Sheetmetal
- Reverse engineering software
- SolidWorks CAD software
- UGS I-DEAS
- Zeemax software

#### Computer aided manufacturing CAM software



- Positioning jigs

- Power drills

- Cylindrical grinders

- Belt sanders

- Band saws

- Pressure sensors

- Safety gloves

- Protractors

- Center punches

- Hacksaws

- Offset screwdrivers

- Scribes

- Shear testing fixtures

- Power shears

- Signal conditioners

- Signal generators

- Arc-joint pliers

- Socket sets

- Soldering equipment

- Combination squares

- Steel rules

- Strain gauges

- Wire strippers

- Measuring tapes

- Dies

- Temperature sensors

- Tensile testers

- Dynamic mechanical analyzers DMA

- Snap gauges

- Screw thread gauges

- Tungsten inert gas TIG welding equipment

- Twin-screw extruders

- Computer aided manufacturing CAM software

- Rapid prototyping software

Data base user interface and query software

- Microsoft Access

Development environment software

- Hewlett-Packard HP Graphics Language HPGL

- Ladder Logic

- Microsoft Visual Basic

- MUMPS M

- National Instruments LabVIEW

- Rockwell Software

Financial analysis software

- Cost estimation software

Industrial control software

- Computer numerical control CNC software

- Human machine interface HMI software

Materials requirements planning logistics and supply chain software

- Bill of materials software

Object or component oriented development software

- C++

- G-code

Presentation software

- Microsoft PowerPoint

Project management software

- Microsoft Project

Spreadsheet software

- Microsoft Excel

Video creation and editing software

- Video analysis software

Word processing software

- Microsoft Word

Tools - Examples

- Accelerometers

- Acoustic emission AE sensors

- Air compressors



- Twist drills
- Ultrasound inspection equipment
- Utility knives
- Vacuum molders
- Freon recovery equipment
- Vibration testers
- Spot welders
- Welding masks
- Dry rod ovens
- Wire cutters
- Drill presses

- Fused deposition modeling machines
- Coordinate measuring machines CMM
- Dynamometers
- Servo-hydraulic material testing machines
- Optical sensors
- Subsonic wind tunnels
- Digital particle image velocimeters
- Force transducers
- Chemical-mechanical polishing equipment
- Nano indentation systems
- Heat exchangers
- Contact testers
- Infrared thermography cameras
- Cryogenic apparatus
- Interferometers
- Vibration control systems
- Computed tomography CT systems
- Programmable logic controllers PLC
- Multimeters
- Oscilloscopes
- Personal computers
- Photoelastic testing machines
- Multi-pen plotters
- Vapor deposition tube furnaces
- Position transducers
- Stylus profilometers
- Laser digitizers
- Scanning electron microscopes
- Scanning probe microscopes
- Aligners
- Function generators
- Fluorescence spectrometers



- Velocity transducers
- Steppers
- Dynamic strain indicators
- Ellipsometers
- Torsional converters
- Vibration testers
- Video editing systems
- Analog to digital converters
- Wire electrical discharge machines
- X ray radiographic systems

### Labor Market Comparison

Description	Mechanical Engineering Technicians	Mechanical Engineers	Difference
Median Wage	\$ 44,890	\$ 67,210	\$ 22,320
10th Percentile Wage	\$ 30,530	\$ 44,330	\$ 13,800
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 51,860	\$ 83,850	\$ 31,990
90th Percentile Wage	\$ 61,330	\$ 96,070	\$ 34,740
Mean Wage	\$ 45,460	\$ 68,230	\$ 22,770
Total Employment - 2007	130	620	490
Employment Base - 2006	129	631	502
Projected Employment - 2016	132	572	440
Projected Job Growth - 2006-2016	2.3 %	-9.4 %	-11.7 %
Projected Annual Openings - 2006-2016	3	14	11

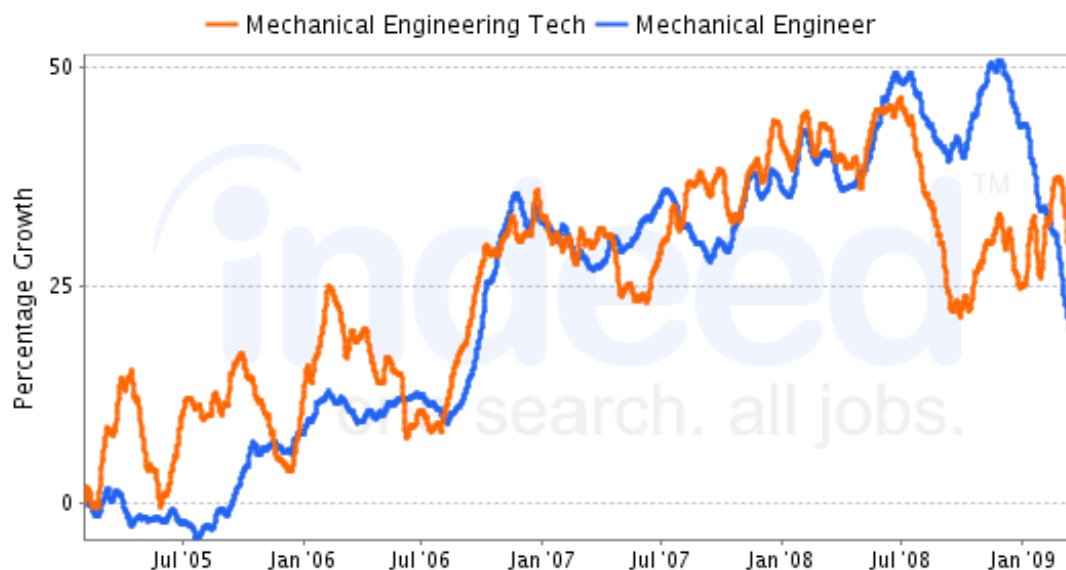
### National Job Posting Trends

Trend for Mechanical Engineering Technicians

Trend for  
Mechanical  
Engineers



### Job Trends from Indeed.com



Data from [Indeed](http://Indeed.com)

### Recommended Programs

#### Mechanical Engineering

Mechanical Engineering. A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of physical systems used in manufacturing and end-product systems used for specific uses, including machine tools, jigs and other manufacturing equipment; stationary power units and appliances; engines; self-propelled vehicles; housings and containers; hydraulic and electric systems for controlling movement; and the integration of computers and remote control with operating systems.

Institution	Address	City	URL
University of Maine		Orono	<a href="http://www.umaine.edu/">www.umaine.edu/</a>
University of Maine		Orono	<a href="http://www.umaine.edu/">www.umaine.edu/</a>
University of Maine		Orono	<a href="http://www.umaine.edu/">www.umaine.edu/</a>
University of Maine		Orono	<a href="http://www.umaine.edu/">www.umaine.edu/</a>

### Maine Statewide Promotion Opportunities for Mechanical Engineering Technicians

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
17-3027.00	Mechanical Engineering Technicians	100	3	130	\$44,890.00	\$0.00	2%	3
17-3023.03	Electrical Engineering Technicians	91	3	430	\$45,180.00	\$290.00	-20%	9
27-1021.00	Commercial and Industrial Designers	91	4	140	\$49,170.00	\$4,280.00	5%	5



17-3013.00	Mechanical Drafters	89	3	710	\$46,630.00	\$1,740.00	2%	22
17-2141.00	Mechanical Engineers	89	4	620	\$67,210.00	\$22,320.00	-9%	14
17-2072.00	Electronics Engineers, Except Computer	88	4	210	\$76,420.00	\$31,530.00	-26%	4
17-2112.00	Industrial Engineers	87	4	580	\$68,350.00	\$23,460.00	11%	22
17-2131.00	Materials Engineers	87	4	40	\$70,250.00	\$25,360.00	-7%	1
17-2121.02	Marine Architects	86	4	60	\$75,520.00	\$30,630.00	-9%	1
51-4111.00	Tool and Die Makers	86	3	160	\$51,670.00	\$6,780.00	-11%	2
17-3026.00	Industrial Engineering Technicians	86	3	370	\$51,700.00	\$6,810.00	6%	9
17-2111.03	Product Safety Engineers	85	5	90	\$49,940.00	\$5,050.00	3%	3
17-2031.00	Biomedical Engineers	84	4	20	\$86,560.00	\$41,670.00	-10%	1
17-2071.00	Electrical Engineers	84	4	260	\$73,050.00	\$28,160.00	-10%	6
17-2121.01	Marine Engineers	84	4	60	\$75,520.00	\$30,630.00	-9%	1

### Top Industries for Mechanical Engineers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Navigational, measuring, electromedical, and control instruments manufacturing	334500	5.42%	12,238	11,716	-4.26%
Aerospace product and parts manufacturing	336400	4.79%	10,826	11,025	1.84%
Federal government, excluding postal service	919999	4.56%	10,296	9,733	-5.47%
Motor vehicle parts manufacturing	336300	4.14%	9,339	7,435	-20.39%
Research and development in the physical, engineering, and life sciences	541710	3.83%	8,649	9,227	6.69%
Other general purpose machinery manufacturing	333900	3.40%	7,677	7,623	-0.70%
Self-employed workers, primary job	000601	2.24%	5,060	5,390	6.54%
Industrial machinery manufacturing	333200	2.20%	4,968	4,477	-9.88%
Agriculture, construction, and mining machinery manufacturing	333100	2.16%	4,872	4,549	-6.63%
Metalworking machinery manufacturing	333500	1.94%	4,374	3,581	-18.13%



Semiconductor and other electronic component manufacturing	334400	1.81%	4,083	3,569	-12.59%
Employment services	561300	1.77%	3,999	5,061	26.56%
Other fabricated metal product manufacturing	332900	1.71%	3,863	3,423	-11.39%
Plastics product manufacturing	326100	1.61%	3,643	3,862	6.00%
Management of companies and enterprises	551100	1.56%	3,526	4,065	15.28%

### Top Industries for Mechanical Engineering Technicians

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Research and development in the physical, engineering, and life sciences	541710	8.52%	4,072	4,344	6.69%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	6.30%	3,013	2,884	-4.26%
Testing laboratories	541380	5.16%	2,467	3,037	23.12%
Other general purpose machinery manufacturing	333900	5.01%	2,393	2,376	-0.70%
Semiconductor and other electronic component manufacturing	334400	3.33%	1,593	1,392	-12.59%
Aerospace product and parts manufacturing	336400	3.02%	1,442	1,468	1.84%
Agriculture, construction, and mining machinery manufacturing	333100	2.58%	1,234	1,152	-6.63%
Employment services	561300	2.19%	1,047	1,325	26.56%
Industrial machinery manufacturing	333200	2.14%	1,022	921	-9.88%
Engine, turbine, and power transmission equipment manufacturing	333600	2.05%	980	822	-16.07%
Motor vehicle parts manufacturing	336300	2.00%	957	762	-20.39%
Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	333400	1.94%	926	852	-8.01%
Medical equipment and supplies manufacturing	339100	1.78%	851	870	2.29%
Communications equipment manufacturing	334200	1.74%	833	839	0.79%
Commercial and service industry machinery manufacturing	333300	1.63%	780	684	-12.28%